IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

INTEGRATED SAFETY MANAGEMENT SYSTEM PHASE II, PART III VERIFICATION

FINAL REPORT
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I, by signature here, acknowledge that I concur with the TEAM LEADER in the findings and conclusions of this report in my assigned area.

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EXECUTIVE SUMMARY

The Department of Energy (DOE) is committed to accomplishing its mission safely. To this end, contractors must integrate safety into management and work practices at all levels so that programs, processes, and objectives are achieved while protecting the public, the worker, and the environment. The contractor is required to implement an integrated safety management system in order to achieve the objective of doing work safely. To ensure these objectives are met, the Department issued a Safety Management System Policy 450.4 (P 450.4), and the DOE Acquisition Regulations (DEAR, 48 CFR 970.5204-2 and 970.5204-78).

This report documents the results of the review conducted to verify: (1) that the Idaho National Engineering and Environmental Laboratory (INEEL) Integrated Safety Management System (ISMS) Description (PDD-1004) has been implemented in the: Idaho Nuclear Technology and Engineering Center (INTEC), with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI); all facilities and activities at the Test Area North (TAN) including the Water Reactor Research Test Facility (WRRTF); balance of facilities and activities at the Test Reactor Area (TRA) not reviewed during the September 1999 Phase II review; balance of facilities and activities at Central Facilities Area (CFA) not reviewed during the September 1999 Phase II review; all facilities and activities at the Power Burst Facility (PBF); and balance of facilities and activities at the Waste Reduction Operations Complex (WROC) not reviewed during the September 1999 Phase II review; and (2) that the DOE Idaho Operations Office (DOE-ID) has implemented processes that integrate their safety activities and oversight with those of the INEEL ISMS. The general conduct of the review was consistent with the direction provided by the DOE-HDBK-3027-99, Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook, and the Integrated Safety Management System Guide G 450.4-1.

This team was tasked with verifying that the approved ISMS Description had been implemented consistent with the DOE Policy 450.4, DEAR 970.5204-2 and 970.5204-78, and the July 29, 1998 Contracting Officer's guidance and with providing a recommendation to the DOE-ID Manager concerning the ISMS implementation. Aspects of the INEEL ISMS were previously reviewed as part of the 1998 accident investigation, the Phase I ISMS Verification, the Independent Review of the Idaho Operations Office Preparations for Phase II Verification of its ISMS, and Phase II Verifications Parts I and II. Results documented in reports from those reviews provided valuable insight into the status of the ISMS. To conduct the review, the team was divided into three sub-teams organized around the Site Area and Facilities within the scope of this review. The sub-teams were: Idaho Nuclear Technology and Engineering Center (INTEC), Test Reactor Area/Test Area North (TRA/TAN), and Central Facilities Area/Power Burst Facility/Waste Reduction Operations Complex (CFA/PBF/WROC). These teams conducted their reviews over a period of approximately four days on site. The reviews were conducted using Criteria and Review Approach Documents that were based on the core functions and guiding principles from the DOE policy and associated guide. Summaries of the reviews are contained in Appendix A with details in Volume II of this report.

COMMENTS

The team was impressed with the extent to which the culture had changed over the last year at these facilities and the extent of acceptance of the system at all levels of Bechtel BWXT Idaho, LLC (BBWI).

The Team noted that the implementation of the ISMS has matured to the point where innovative approaches to doing work safely are emerging. These include applying streamlined concepts, alternate approaches and technologies; some of which are discussed in detail in Volume II of this report.

The BBWI Management Team was found to be competent and aware of safety and safety integration issues. The policies, procedures, and practices observed during the ISMS Verification were found to be generally in agreement with requirements and effective in meeting goals.

Especially noteworthy was the degree to which workers were found to be involved in the management of safety. Workers interviewed at all facilities were found to be enthusiastic about the ISMS process. They indicated and demonstrated that the ISMS process has had a positive impact on their ability to get work done in a safe and timely fashion. Across the facilities, the team found that the degree of worker involvement was exceptional.

BBWI (managers, supervisors, and workers) and DOE-ID demonstrated a strong commitment to safety and the concept of ISM. Management involvement was found to be exceptional. A great deal of progress had been made at INEEL in a short period of time. This progress could not have been achieved without the strong commitment on the part of BBWI (and DOE) management to make these changes. Additionally, BBWI is committed to continually using and strengthening the ISM process after the Phase II verification is complete.

All levels of the organizations reviewed were knowledgeable of the functions and principles of ISM. The documents reviewed, the personnel interviewed, and the activities observed during the ISMS verification confirmed that the principles and functions of ISM are integrated into work planning and work execution at the areas reviewed.

The role of DOE-ID was also reviewed. DOE-ID was found to demonstrate a strong commitment to implementation of ISM through contract management. DOE-ID management and technical presence at the specific facilities reviewed demonstrated commitment to effective contract management.

As identified in the prior Phase II reviews, the project-management approach for implementing ISMS taken at both BBWI and DOE-ID worked very well. This approach allowed a major change in the way work is managed and controlled at these facilities to occur over a short period of time. The prioritized approach provided for a disciplined identification and tracking of all task scope, schedule, and budget activities. Consistent application of good project management principles by project leadership contributed to the successful accomplishment of ISMS development and implementation.

The team found the ISMS implementation to be quite good. The system was found to be robust and effective. The system comprehensively and rigorously integrates safety into all work planning and execution activities pursuant to the Core Functions and Guiding Principles. The approach taken of building a work control process from the bottom up, rather than imposing the principles of ISM on existing safety and management programs has worked very well.

The system implemented for activity-level hazard identification and mitigation was found to be excellent, perhaps the best in the DOE complex. The key procedures for the system were found to be effectively implemented and robust. The system results in facility hazard lists that combine the range of worker and environmental hazards present in individual facilities across the site. Particularly noteworthy was the hazard mapping system developed for the TAN facility. The web-based system allows workers to view schematics of individual rooms within TAN with the hazard locations identified and links to useful supporting information. This system should be a major advance for work planning and safety management.

Some opportunities for improvement were noted. One of the most significant weaknesses was the flowdown of safety requirements to subcontractors, particularly the vendor subcontractor workforce. This weakness had been identified previously and a new system to resolve the problem developed as the review was initiated. Careful management attention is needed by BBWI and DOE-ID to ensure that this new system is effective.

The team found that the BBWI Independent Oversight organization has changed since the previous verifications. BBWI management needs to re-evaluate the scope of work and funding mechanism for the Independent Oversight organization from the perspective of balanced priorities, competence commensurate with responsibility, and the desire to maintain an independent regulatory, risk and performance-based assessment schedule.

Problems were also noted with implementation of the issues management program. These problems emphasized the need for diligence in the implementation of the issues-management corrective action program at INEEL. These problems had been previously identified by BBWI.

A general problem noted by the team was that DOE does not have a system in place to ensure that changes to the INEEL ISMS and key implementing procedures reviewed in the Phase I do not change the integrity of the ISMS. The ISMS Description Document (PDD-1004) does state that changes to policies and/or programs which alter the intent or results of the ISMS Description Document must receive DOE concurrence. A system was not found that ensures that changes in the many implementing procedures that implement the Description Document will get DOE-ID review if needed.

CONCLUSION

The team found that the approved ISMS Description PDD-1004 has been implemented at all facilities reviewed and that all review objectives have been met.

NOTEWORTHY PRACTICES

BBWI

- INEEL managers are committed to all aspects of the safety management program. They demonstrated an aggressive, positive attitude towards implementing the Core Functions and Guiding Principles of the ISMS.

- The ISM culture has been instilled at all levels of BBWI, from the workers through the senior managers.

- Use of the Authorization Basis Implementation Record (ABIR) system to define and track both safety and environmental compliance requirements at TAN. It is noteworthy that this approach was first exported to TAN from INTEC, and then expanded at TAN to include environmental requirements.

- Worker involvement and enthusiasm for the work control process, Voluntary Protection Program, Worker Applied Safety Program, and Employee Safety Committees and Teams are evident at every site.

- The level of knowledge of the workforce, including understanding of their roles, responsibilities, and authorities, is exemplary. This is attributed to the training program and qualification process for systems engineers, safety analysts, operators, etc.

- The Administrative Preventive Maintenance (APM) system developed for management and scheduling of all administrative actions related to the completion of the WROC/PBF mission has resulted in an extremely high completion rate for administrative actions for the WROC/PBF directorate.

- The project-management approach taken by BBWI for ISMS implementation worked very well and allowed major changes in the way work is managed and controlled to occur over a short period of time. This included a detailed work-breakdown structure, plan-of-the-week meetings, and other project management tools.

- The seamless integration of environment into the ISMS is a significant achievement. While this has always been an ISMS requirement and one of DOE-ID's expectations, the process utilized and the comprehensive results are exemplary.

- The activity-level hazard identification and mitigation system implemented is excellent. The processes implemented by procedures STD-101, MCP-3562, MCP-3571, and the Facility Hazard Lists are robust. The Facility Hazards Lists combine numerous sitewide databases to provide workers and planners with a complete listing of hazards to the worker and the environment.

- The TAN hazard mapping system is a significant improvement to the process for hazard identification and mitigation.

- BBWI's utilization of internal and external assist teams proved to be a valuable tool for identifying implementation issues and deficiencies. Internal teams were selected based on their diverse experience and excellent working knowledge of Operations, Research, and Maintenance. External teams were selected based on their industry-recognized expertise and experience in ISMS processes throughout the DOE complex. Both teams provided senior line management with a comprehensive and objective perspective on ISM progress.

- An extensive and thorough process is used for requirements roll down from List A/B to company-level documents described in PDD-1004 to the facility-level procedures. Additionally, the company-level SME reviews of the implementation of functional area requirements were conducted at the site areas. These reviews provided verification and reinforced the requirements roll down effort.

DOE-ID

- The DOE-ID demonstrated a strong commitment to managing ES&H and QA through contract management thereby ensuring the contractor would meet ISM contract commitments. DOE management and technical presence at the specific facilities reviewed demonstrate an excellent commitment to contract management.

- The continuing positive spirit of the DOE-ID organization to ISMS, their demonstrated oversight and teamwork with contractor personnel, and their strong sense of line management responsibility for safety at INEEL continue to be substantial strengths.

- The project-management approach taken by DOE-ID to ISMS implementation worked very well and allowed major changes in the way work is managed and controlled to occur over a short period of time. This included a detailed work-breakdown structure, plan-of-the-week meetings, and other project management tools.

OPPORTUNITIES FOR IMPROVEMENT

BBWI

- At some of the facilities identification of wastes that might be generated during work activities is not adequately identified in the work packages or procedures. The mechanisms integrate the appropriate knowledgeable personnel in the review of waste generation activities, however, the work documents did not provide the level of information needed to ensure the proper handling and disposition of waste or allow the worker to understand the waste generation boundaries.

- For construction activities, the process for developing and approving "subsequent" JSAs is not consistent with the Work Order Change process required by STD-101.

- At some facilities the process to disseminate lessons learned at the worker level is weak. Employees at lower levels in the organization did not demonstrate a reasonable level of familiarity and understanding of recent accidents within the DOE complex.

- Problems with the INEEL issues management program have been previously identified by BBWI. Additional management attention by DOE-ID and BBWI is needed to improve this program.

- The ISMS clause has not been passed down to all subcontractors requiring that they manage and perform their work in accordance with a documented ISMS.

- Additional management attention is needed to ensure that the interfaces between facility operations and other organizations effectively implements ISMS. MCP-3776 requires that interface agreements be maintained with other organizations as necessary to ensure that the quality of equipment, hardware, software, and documentation meets site facility requirements. Interface problems between construction subcontractors and operations have been apparent in the recent past. An Interface Agreement (IAG-72) between INTEC and construction management has been approved, but is not yet fully implemented. An interface agreement does not exist between Waste Reduction Operations Complex and INTEC. Additionally, an interface agreement does not exist between Environmental Restoration (ER) and INTEC.

- The process for balancing the priorities to ensure that robust ISMS implementation is maintained is defined in PDD-1054. Risk prioritization of safety management system activities, including budget impacts, balance of priorities, and the process for prioritization of funding for safety management needs strengthening. A specific example that should be reevaluated on this basis should be funding for the Independent Oversight Organization.

DOE-ID

- DOE does not have a process in place to ensure that changes to the INEEL ISM system and key implementing procedures do not change the integrity of the ISM system without DOE approval.

1.0 INTRODUCTION

Department of Energy (DOE) Safety Management System Policy 450.4 (P 450.4), defines the expectations that DOE facilities will be operated in accordance with an Integrated Safety Management System (ISMS). The DOE Acquisition Regulations (DEAR, 48 CFR 970) further require that the Head Contracting Authority (Idaho Operations Office [ID]) provide guidance to the contractor as to the expectations for the ISMS Description.

Each site within DOE is to verify that the ISMS Description: 1) fulfills the expectations of the Head Contracting Authority, meets the requirements of the DEAR and the DOE Policy for Safety Management Systems; and 2) that the Description is implemented. The verification reviews are to be conducted in accordance with the DOE-HDBK-3027-99, Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook; and DOE G 450.4-1, Integrated Safety Management System Guide. As described in the Team Leader's Handbook and the ISMS Guide, the ISMS Verification is to be conducted in two phases. The ISMS Verification Phase I verified the adequacy of the description and the ISMS Verification Phase II verifies implementation of the ISMS.

The ID Manager guidance and expectations for the Idaho National Engineering and Environmental Laboratory (INEEL) were provided to the previous Contractor for the establishment of an ISM System at INEEL.

The ISMS established by the previous Contractor was evaluated by an ISMS Verification Phase I (ISMSV-I) completed in the spring of 1999. An ISMSV Phase II for the first five selected INEEL Facilities was completed in September 1999, immediately prior to the change of the INEEL M&O Contractor. A second ISMSV Phase II was conducted for Idaho Falls Facilities and the Specific Manufacturing Capability (SMC) in March 2000. All remaining INEEL facilities have been evaluated with the completion of this review.

The results, corrective actions, and lessons learned from the previous ISMSV-I and II were to be included and integrated into INEEL operations. The Team utilized the results and lessons learned from the previous ISMSV-I and II evaluations in the conduct of this evaluation.

The DOE Idaho Operations Office Manager appointed Terry Smith from DOE-ID as the Team Leader for this ISMS Verification Phase II, Part III, and specified the scope of this review and the desired deliverables.

1.1 Purpose

The purpose for the INEEL ISMS Verification Phase II, Part III, is to provide an assessment to the ID Manager concerning the effectiveness of the implementation of ISMS for facilities at INEEL, which have not yet undergone an ISMSV-II, and to delineate areas in which implementation does not conform to the approved ISMS Description. In assessing the adequacy of the ISMS implementation, the ISMS Verification Phase II considered the results of previous ISMS Verification Phase I and Phase II reviews. This final report of ISMSV-II, Part III,

discusses the progress and effectiveness of the implementation efforts in these identified Site Areas and Facilities.

1.2 Scope

The scope of the INEEL ISMS Verification Phase II included the ISMS for the following INEEL Site Areas and Facilities and activities managed and operated by BBWI under Contract DE-AC07-99ID13727 including the integration with the appropriate DOE-ID entities: Idaho Nuclear Technology and Engineering Center (INTEC), with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI); all facilities and activities at the Test Area North (TAN) including the Water Reactor Research Test Facility (WRRTF); balance of facilities and activities at the Test Reactor Area (TRA) not reviewed during the September 1999 Phase II review; balance of facilities and activities at Central Facilities Area (CFA) not reviewed during the September Phase II review; all facilities and activities at the Power Burst Facility (PBF); and the balance of facilities and activities at the Waste Reduction Operations Complex (WROC). Other INEEL Site Areas and Facilities have been previously reviewed.

The ISMS Verification Phase II evaluated the adequacy of the ISMS implementation as compared to the approved ISMS Description. In assessing the adequacy of the ISMS implementation, the ISMS Verification Team considered how the described site-wide corporate system containing safety requirements is coordinated and integrated "downward" into the individual facility and work processes. At the facility or process level, the mechanisms, which identify, evaluate, control and assess individual work items were assessed as key indicators of the adequacy of the implementation. The review assessed the adequacy of the programmatic documentation at the facility level. Integration between the Contractor and DOE-ID as well as the integration within the Contractor's organization from the site-wide to the process specific implementation were also reviewed. By reviewing supporting documents, interviewing individuals within the facilities, and observing the accomplishment of selected work processes, the ISMS Verification Phase II was able to draw conclusions as to the adequacy of the ISMS implementation. It is important to note that the complete integration of environmental hazards including waste minimization and pollution prevention into the ISM system were considered crucial to the success of the system. The scope of the review at INEEL included all eight ISMS Core Expectations (Appendix II) included in the ISMS Verification Team Leader's Handbook, which results in evaluation of the core functions and guiding principles for Integrated Safety Management as defined in the DOE P 450.4.

1.3 Overall Approach

The ISMS Verification Phase II Team reviewed the ISMS implementation in the selected Site Areas and Facilities at INEEL. The Verification Team evaluated the progress and effectiveness of the implementation efforts against the guiding principles and core functions defined in DOE P 450.4. Based on this assessment, the ISMS Verification Phase II Team presents conclusions and recommendations (Section 3.0) to the ID Manager as to whether the ISMS implementation is achieving the overall objective of Integrated Safety Management which is described as follows:

"The Department and contractors must systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is to be accomplished through effective integration of safety management into all facets of work planning and execution. In other words, the overall management of safety functions and activities becomes an integral part of mission accomplishment."

1.3.1 Sequence of Activities

The first step in the ISMS Verification process was to provide training and interaction among the team members to ensure an adequate understanding of the DOE ISMS Policy expectations, the specific INEEL ISMS Description, and the plan and strategy for the review. As a final action of this initial effort, the team completed the Criteria and Review Approach Documents (CRADs) which guided the review. The final CRADs are included in the Assessment Forms in Volume II of this report. The indoctrination period of about four days, including CRAD development and some initial briefings was conducted at the INEEL two weeks prior to the start of the ISMS Verification Phase II. This initial period was utilized by DOE-ID and the Contractor to provide ISMS presentations and briefings to update the Verification Team on implementation progress since the previous ISMS verifications.

The ISMS Verification Phase II Part III review was conducted during a two-week period following development of the CRADs and completion of the team indoctrination. The review consisted of completing any necessary Site Area/facility specific briefings from the Contractor and DOE-ID to the team, as well as interviews, observations, and document reviews. The second week was used to complete the Assessment Forms, the preparation of the Final Report and any related activities.

Team members completed their evaluation of the criteria in the individual CRADs that support conclusions as to whether the individual objectives have been met. The evaluation of the criteria resulted from the presentations coupled with the interviews, observations, and documentation reviews. An important input to all efforts was the observations and discussions with individuals within the facilities who explained and defended the ISMS at their individual levels of responsibility. The record of the evaluation is the Assessment Form. An Assessment Form was prepared for each Objective in the CRADs and document the basis for the conclusions reached concerning the objective and criteria. Each Assessment Form concludes with a set of numbered issues or observations which are rolled up to "Opportunities for Improvement" in the Executive Summary of this Final Report. Issues identified during the review of the individual CRAD which warrant the attention of the ID Manager or senior Contractor management are clearly identified within the Assessment Form. In addition, good ISMS practices are identified as strengths in the assessment forms and are rolled up to “Noteworthy Practices” in the Executive Summary.

1.3.2 BBWI and DOE-ID Preparations

BBWI and ID Managers presented their implementation of ISMS, consistent with the approved Description document, to the team so that a basis for interviews, observations and further

document reviews could be formed. The individual Managers understood the expectations of the ISMS Verification Phase II and the ID expectations for ISMS implementation.

The briefings consisted of BBWI and ID making presentations to the team to describe how the approved ISMS Description has been implemented consistent with DOE P 450.4, the ISMS DEAR clauses, and the requirements of the ID Manager. The briefings included identification and a brief description of supporting program and process documents at the Site Area/facility level, as well as self-identified gaps in the ISMS implementation plans. These presentations described the integration of safety management between the Contractor and DOE-ID, and within the Contractor organization at the Site Area and Facility level. At the conclusion of the presentations, the ISMS Verification Phase II Team reviewed documentation, interviewed selected personnel, observed work processes, and completed the other necessary actions to support the review.

1.3.3 Process for ISMS Review

The review was conducted using the CRADs that are included as Appendix II of the Review Plan. The CRADs are identified by functional area and they were used by each of the three sub-teams to form a common basis for the review. The functional areas are Hazards Identification and Standards Selection (HAZ), Management (MG), Operations (OP), Subject Matter Expert (SME), and DOE-ID (DOE). The ISMS Verification Phase II, Part III sub-teams are:

Idaho Nuclear Technology and Engineering Center (INTEC)
Test Reactor Area/Test Area North (TRA/TAN)
Central Facilities Area/Power Burst Facility/Waste Reduction Operations Complex (CFA/PBF/WROC)

The INTEC sub-team reviewed the ISMS implementation for facilities within the Idaho Nuclear Technology and Engineering Center with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI).

The TRA/TAN sub-team reviewed the ISMS implementation for the facilities within the Test Reactor Area (excluding the Advanced Test Reactor (ATR), the ATR Criticality Facility (ATR-C), and the Nuclear Materials Inspection and Storage (NMIS) facility) and within the Test Area North, including the Water Reactor Research Test Facility (WRRTF).

The CFA/PBF/WROC sub-team reviewed the ISMS implementation for facilities within the Central Facilities Area (excluding the Transportation Complex, commonly known as “The Big Shop,” the LNG Dispensing Facility, and the Propane Dispensing Facility), the Power Burst Facility Area, and the Waste Reduction Operations Complex Area excluding WERF.

The TRA/TAN sub-team also used a Subject Matter Expert (SME) CRAD during their review. The SME CRAD was utilized to assess whether the core functions and guiding principles of ISM were met for the control of work within the specific discipline of radiation protection. For the other two sub-teams, radiation protection was reviewed using criteria for the OP CRAD.

The INTEC sub-team also used a Subject Matter Expert (SME) CRAD during their review to assess whether the core functions and guiding principles of ISM were met for the control of work within the specific discipline of issues management. For the other two sub-teams, issues management was reviewed using criteria for the MG CRAD.
In addition, the evaluation of maintenance and work control was considered by all of the sub-teams using the OP CRAD since this discipline normally demonstrates the essence of safely conducting work. Likewise, quality assurance and training and qualification areas were evaluated by all sub-teams using criteria from the MG CRAD.

The review of the individual CRADs assessed the status of the ISMS implementation and support the Verification Phase II Team's conclusions and recommendations with regard to work being done safely and in accordance with the principles and functions of DOE P 450.4.

2.0 ASSESSMENT OF INEEL ISMS

This section provides a summary of the ISMS Verification results for both DOE-ID and BBWI. This review focused on the facility and work process levels, with emphasis on noted deficiencies or recommendations relative to the five functions of ISMS described in DOE P450.4. More detailed summaries for each sub-team are included in Appendix A. The safety management functions provide the essential framework for evaluating line management's performance in implementing an effective safety management program. These functions identify the requirements that apply to work processes, and ensure that the necessary analysis and controls have been implemented to ensure that work can be performed safely and in an environmentally sound manner.

All the facilities reviewed have made notable progress in implementing the approved ISMS defined in PDD-1004. Managers demonstrate a commitment to ISMS and are responsible and accountable for safety. Facility personnel demonstrate competence commensurate with responsibility, and are fully engaged in the ISMS process by actively participating at all levels. Procedures and mechanisms are in place to ensure work is defined; hazards are analyzed; controls are developed; work is formally and appropriately authorized and safely performed; and feedback and improvement programs are in place and effective. Although issues have been noted, the challenge facing BBWI is to assure that the ISM systems that are now in place continue to be used and enhanced through continuous process improvement.

In order to accomplish the Core Functions of ISMS addressed below, clearly defined roles and responsibilities are embedded in the company-wide and facility specific documentation implemented under PDD-1004. These documents emphasize line management responsibility for safety. Facility directives have been implemented that summarize for facility positions the roles and responsibilities from both company and facility documents. These facility directives extend down to the worker level.

Facility personnel demonstrate competence commensurate with responsibility and are fully engaged in the ISMS process by actively participating at all levels. The implementation of the ISMS has facilitated worker involvement in work planning and hazard identification and mitigation. The employees demonstrated a high degree of enthusiasm and ownership for their role in the ISMS process.

This ISMSV-II Part III specifically continued the review of the DOE-ID for INTEC. Additionally, the Radiological Controls Subject Matter Expert (SME-1) CRAD focused on the Radiological Controls at TRA and TAN, and the Issues Management Subject Matter Expert (SME-2) CRAD focused on the Issues Management System at INTEC. These were conducted at the direction of DOE-ID to provide a consistent approach to assess the degree of overall INEEL ISMS implementation, continuity and improvement during the past year.

The DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities and provide oversight for the contractor's ISMS at INTEC. The DOE-ID organization provides adequate oversight at INTEC for the five ISMS Core Functions: (1) Define

Scope; (2) Analyze the Hazards; (3) Develop and Implement Controls; (4) Perform Work within Controls; and (5) Provide Feedback and Continuous Improvement.
The INEEL Radiological Control Organization has appropriately implemented the five core functions of ISMS into the INEEL radiological control program.

The ISMS is the designated tool for identifying and controlling environmental safety issues related to work at the INEEL and that affects environmental protection. As with previous ISMS Phase I and II verification activities at the INEEL, a thorough review of the integration of environment into all work planning and execution was performed by the Team. The prevention of pollution by reducing waste generation, emissions and effluent discharge is integral to the INEEL ISMS. The Team's review confirmed that the ISM directives that are implemented reflect a commitment to pollution prevention and environmental protection.

The following noteworthy practices and opportunities were general in nature, and apply to the overall implementation of ISMS.

Noteworthy Practices:

- INEEL managers are committed to all aspects of the safety management program. They demonstrated an aggressive, positive attitude towards implementing the Core Functions and Guiding Principles of the ISMS.

- The ISM culture has been instilled at all levels of BBWI, from the workers through the senior managers.

- The continuing positive spirit of the DOE-ID organization to ISMS, their demonstrated oversight and teamwork with contractor personnel, and their strong sense of line management responsibility for safety at INEEL continue to be substantial strengths.

- The project-management approach taken by BBWI and DOE-ID for ISMS implementation worked very well and allowed major changes in the way work is managed and controlled to occur over a short period of time. This included a detailed work-breakdown structure, plan-of-the-week meetings, and other project management tools.

- The DOE-ID demonstrated a strong commitment to managing ES&H and QA through contract management thereby ensuring the contractor would meet ISM contract commitments. DOE management and technical presence at the specific facilities reviewed demonstrate an excellent commitment to contract management.

- BBWI's utilization of internal and external assist teams proved to be a valuable tool for identifying implementation issues and deficiencies. Internal teams were selected based on their diverse experience and excellent working knowledge of Operations, Research, and Maintenance. External teams were selected based on their industry-recognized expertise and experience in ISMS processes throughout the DOE complex. Both teams provided senior line management with a comprehensive and objective perspective on ISM progress.

- An extensive and thorough process is used for requirements roll down from List A/B to company-level documents described in PDD-1004 to the facility-level procedures. Additionally, the company-level SME reviews of the implementation of functional area requirements were conducted at the site areas. These reviews provided verification and reinforced the requirements roll down effort.

Opportunities for Improvement:

DOE-ID

- DOE does not have a process in place to ensure that changes to the INEEL ISM system and key implementing procedures do not change the integrity of the ISM system without DOE approval.

Define the Scope of Work: Missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated.

The INEEL Institutional Plan establishes the overall strategic thrusts and vision for activities performed at the INEEL. Procedures and mechanisms are in place that require line management to identify and prioritize mission related tasks and processes, modifications, and work. Active and continuous management attention on work identification, planning and prioritizing is clearly evident. This results in positive control of work scope and resource allocations during operations, maintenance, and facility outages. The scope of maintenance activities is documented on work control forms and packages. The scope of operational activities is documented in operating procedures. The daily schedule developed in conjunction with the Plan of the Day (POD) Meeting is an effective management tool that has been institutionalized at all facilities reviewed. Long-range schedules are used to support this process. Procedures and mechanisms are in place and utilized to confirm that the facility and the workforce are in an adequate state of readiness prior to authorizing performance of the work.

The DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities and provide oversight for the contractor's processes to "Define the Scope of Work" at INTEC. Overall, based on the observations from this ISMSV-II for INTEC and the previous ISMSV-II results, the DOE-ID INTEC management continued to use their processes satisfactorily, consistent with requirements in this area. The positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with contractor personnel, and their strong sense of line management responsibility for safety for INTEC are substantial strengths.

Document reviews, personnel interviews, and observations indicate there is adequate management direction and worker involvement to conclude the INEEL Radiological Control organization has adequately implemented ISMS into the INEEL radiological Control Program.

Noteworthy Practices:

- Use of the Authorization Basis Implementation Record (ABIR) system to define and track both safety and environmental compliance requirements at TAN. It is noteworthy that this approach was first exported to TAN from INTEC, and then expanded at TAN to include environmental requirements.

Opportunities for Improvement:

- The ISMS clause has not been passed down to all subcontractors requiring that they manage and perform their work in accordance with a documented ISMS.
- Additional management attention is needed to ensure that the interfaces between facility operations and other organizations effectively implements ISMS. MCP-3776 requires that interface agreements be maintained with other organizations as necessary to ensure that the quality of equipment, hardware, software, and documentation meets site facility requirements. Interface problems between construction subcontractors and operations have been apparent in the recent past. An Interface Agreement (IAG-72) between INTEC and construction management has been approved, but is not yet fully implemented. An interface agreement does not exist between Waste Reduction Operations Complex and INTEC. Additionally, an interface agreement does not exist between Environmental Restoration (ER) and INTEC.

- The process for balancing the priorities to ensure that robust ISMS implementation is maintained is defined in PDD-1054. Risk prioritization of safety management system activities, including budget impacts, balance of priorities, and the process for prioritization of funding for safety management needs strengthening. A specific example that should be reevaluated on this basis should be funding for the Independent Oversight Organization.

Analyze the Hazards: Hazards associated with the work are identified, analyzed and categorized.

The hazard analysis process adequately controls the hazards to workers, the environment, and the public. This includes nuclear, industrial, occupational safety, and environmental hazards. Hazard identification is normally performed under one of three processes: STD-101 for maintenance and construction; MCP-3571 for R&D activities and MCP-3562 for operations-related activities. Craftsmen, operators, line management, and ESH&QA professionals actively participate in hazards identification and mitigation through the use of the Work Control Form, the Hazards Identification and Mitigation Process, the Hazards Profile Screening Checklist, the Hazard Evaluation Group (HEG), pre-job briefings, and post-job reviews. Multiple checks and balances are incorporated into the overall hazard identification process. When a radiological hazard is identified in the screening process, the ALARA program is implemented through the Radiological Work Permit. The HEGs at all facilities reviewed are rigorous in their reviews. Waste Generator Services is also integrated into the work planning. TAN has implemented a Hazard Mapping System. This system is a computer based, interactive, pictorial database that takes the Facility Hazards List and provides not only what hazards are in the building, but also shows where the hazards are located.

Authorization Agreements and Authorization Bases have been developed and approved by DOE-ID. Hazard categorizations have been performed for all facilities. Worker involvement, including subcontractors, is paramount in every aspect of ISMS implementation, especially in hazard identification and analysis.

Workers and management are highly aware of the importance of pollution prevention and waste minimization and ensure the work planning process includes these aspects.
Radiological Control procedures are in place and in use by radcon and line management to ensure radiological hazards are identified and analyzed to ensure proper controls are implemented to perform radiological work safely.

Noteworthy Practices:

- The activity-level hazard identification and mitigation system implemented is excellent. The processes implemented by procedures STD-101, MCP-3562, MCP-3571, and the Facility Hazard Lists are robust. The Facility Hazards Lists combine numerous sitewide databases to provide workers and planners with a complete listing of hazards to the worker and the environment.

- The TAN hazard mapping system is a significant improvement to the process for hazard identification and mitigation.

Opportunities for Improvement:

- At some facilities the identification of wastes that might be generated during work activities is not adequately identified in the work packages or procedures. The mechanisms integrate the appropriate knowledgeable personnel in the review of waste generation activities, however, the work documents did not provide the level of information needed to ensure the proper handling and disposition of waste or allow the worker to understand the waste generation boundaries.

Develop and Implement Hazard Controls: Applicable standards and requirements are identified and agreed-upon, controls to prevent/mitigate hazards are identified, the safety envelope is established, and controls are implemented.

STD-101 and MCP-3562 both contain requirements for the use of specific processes for ensuring that hazards associated with maintenance and operations are determined, evaluated and mitigated in the documents used to control work. The processes included in the hazard identification and mitigation process include the Hazard Profile Screening Checklist, Facility Hazards Lists, planning walk-downs, workability walk-downs, pre-job briefings and the establishment of an adequate “stop work” process.

The Independent Hazard Review (IHR) process for research activities also provides for the use of tools to ensure that safety requirements are integrated into work performance. These processes, as specified in MCP-3571, include the IHR Checklist and Hazard Mitigation Plan, Hazard Assessment and Mitigation Plan, Hazard Mitigation Checklist, Work Activities Checklist

for compliance with NEPA, Exposure Survey and Assessment forms, and a Conduct of Operations Checklist.

Noteworthy Practices:

- None identified.

Opportunities for Improvement:

- For construction activities, the process for developing and approving "subsequent" JSAs is not consistent with the Work Order Change process required by STD-101.

Perform Work within Controls: Readiness is confirmed and work is performed safely.

Facility starts and restarts of nuclear facilities are controlled through a well-defined process that includes an Operational Readiness Review or an Operational Readiness Assessment. Authorization Agreements have been signed by the contractor and DOE for all nuclear facilities and provide the conditions for safe operations.

For maintenance and construction activities, readiness is confirmed via the process defined in STD-101. For operational activities, hazards are identified and controls are implemented in accordance with MCP-3562. All research work is controlled through the Independent Hazard Review Group (IHRG) process specified in MCP-3571.

During all evolutions, the training, knowledge and skill of the observed employees were demonstrated consistently. All were competent commensurate with their responsibilities. Utilization of the qualification card, which each employee carries, assures that each individual is aware of their training status. All individuals interviewed fully understood their "Stop Work" authority and indicated that they would not hesitate to use it.

Foremen and supervisors are responsible to ensure that work is performed in this manner within established controls. The senior supervisory watch provides a final review and monitors activities based on the nature of the work, performing an important management oversight role to ensure work is performed within controls.

Employee Safety Teams are recognized as a significant strength. The Employee Safety Teams develop directorate-wide safety goals, track and trend performance indicators, and coordinate safety walkdowns, inspections and observations of work areas. This activity has greatly expanded the individual employee's involvement in safety and has contributed significantly to an enhanced "safety culture".

The DOE-ID INTEC Facility Representatives (FRs), Facility Engineers (FEs), and Facility Staff and Management are sufficiently knowledgeable, engaged in INTEC operations, and have established a good rapport with their INTEC facility personnel and the DOE-ID support personnel.

Noteworthy Practices:

- Worker involvement and enthusiasm for the work control process, Voluntary Protection Program, Worker Applied Safety Program, and Employee Safety Committees and Teams are evident at every site.

- The level of knowledge of the workforce, including understanding of their roles, responsibilities, and authorities, is exemplary. This is attributed to the training and qualification process for systems engineers, safety analysts, operators, etc.

Opportunities for Improvement:

- None identified

Provide Feedback and Continuous Improvement: Feedback information on the adequacy of controls is gathered, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory enforcement actions occur.

Procedures and mechanisms are in place and utilized by personnel to collect feedback information including self assessments, facility excellence walkdowns, monitoring of performance measures, occurrence reporting, and investigation of injuries and accidents.

Feedback and improvement are adequately integrated and formalized through: self-assessments (required and targeted), facility walkdowns, occurrence reporting, use of Lessons Learned, use of Issue Communication and Resolution Environment (ICARE) Reports, Work Control Forms, various management review boards, and post-job reviews.

Procedures and mechanisms are in place and utilized by personnel to identify feedback opportunities. These processes are well accepted and serve to provide a source of feedback information, which is evaluated for potential process improvements and applied to processes to improve performance.

A number of processes are used to establish, document, and implement safety performance objectives and measures. At a corporate level, the Performance Evaluation Measurement Plan (PEMP) addresses administration of award fee provisions of the contract between DOE and BBWI, and uses a balanced scorecard approach to establish safety and operational performance measures and goals. Performance Execution Guidance is another mechanism used to establish performance expectations, performance measures, and milestones. The ESH&QA Performance Measurement & Trending Report provides performance metrics and analysis on a periodic basis for individual facilities and the overall company. A number of periodic assessment and trending reports are routinely prepared to provide important feedback and continuous improvement information to management.

The DOE-ID at INTEC is providing adequate oversight in the execution of their responsibilities for these areas. The DOE-ID INTEC documentation provides adequate and consistent feedback

of their oversight activities at INTEC to the M&O Contractor. Their feedback is a key element not only to the performance of work, but is also important in providing sufficient input for the contractor's continuous improvement.

The INEEL Radiological Controls organization has adequately implemented their responsibility to conduct oversight of line management and perform self-assessments.

Noteworthy Practices:

- The Administrative Preventive Maintenance (APM) system developed for management and scheduling of all administrative actions related to the completion of the WROC/PBF mission has resulted in an extremely high completion rate for administrative actions for the WROC/PBF directorate.

Opportunities for Improvement:

- At some facilities the process to disseminate lessons learned at the worker level is weak. Employees at lower levels in the organization did not demonstrate a reasonable level of familiarity and understanding of recent accidents within the DOE complex.

- Problems with the INEEL issues management program have been previously identified by BBWI. Additional management attention by DOE-ID and BBWI is needed to improve this program.

3.0 CONCLUSIONS AND RECOMMENDATION

The conclusion of this ISMS Verification Team is that the INEEL ISMS Description PDD-1004 has been implemented at the Idaho Nuclear Technology and Engineering Center (INTEC), Test Reactor Area/Test Area North (TRA/TAN), Central Facilities Area/Power Burst Facility/Waste Reduction Operations Complex (CFA/PBF/WROC). The Team also determined that DOE-ID has integrated their safety activities and oversight with those of the INEEL ISMS.

BBWI's plan to maintain the ISMS at the INEEL was reviewed. The plan uses ISM implementing mechanisms, already established at the INEEL, as processes to sustain the current safety management culture, measure system effectiveness, and update system processes in response to feedback and assessment results. The ISMS has matured to the level that the processes for the ISM core functions can become the comprehensive tools for maintaining and updating the system. The plan is responsive to the guidance in Chapter IV of DOE G 450.4-1A. It is recommended that the plan be added as a new section to the ISMS Description Document, PDD-1004, upon final approval from BBWI and DOE-ID, and this plan be used as the path forward for the ISMS at the INEEL.

4.0 LESSONS LEARNED

The items below are provided to assist future teams in efficiently conducting Phase II reviews:

- Providing documents, procedures and other relevant preparation information on CD-ROM during the pre-visit is very beneficial, especially for out of town team members.
- Providing out of town team members with a network account for e-mail and accessing documents off the internet is very beneficial.
- Pre-verification tours are very helpful even if the team member has familiarity with the facilities being reviewed.
- As a mentoring process, new or less experienced team members need to develop lines of inquiry and have the team leader review them.

APPENDIX A
Sub-Team Summaries

Idaho Nuclear Technology and Engineering Center (INTEC)

The INTEC has made notable progress in implementing the approved ISMS defined in PDD-1004. The INTEC has clearly defined roles and responsibilities. Managers demonstrate a commitment to ISMS and are responsible and accountable for safety. Facility personnel demonstrate competence commensurate with responsibility, and are fully engaged in the ISMS process by actively participating at all levels. Procedures and mechanisms are in place to ensure work is defined; hazards are analyzed; controls are developed; work is formally and appropriately authorized and safely performed; and feedback and improvement programs are in place and effective. INTEC ISMS was determined to be implemented and areas for improvement were identified during this review that will lead to a more robust ISMS.

Define the Scope of Work

The INEEL Institutional Plan establishes the overall strategic thrusts and vision for activities performed at the INEEL. Procedures and mechanisms are in place that require line management to identify and prioritize mission related tasks and processes, modifications, and work. Active and continuous management attention on work identification, planning and prioritizing is clearly evident. This results in positive control of work scope and resource allocations during operations, maintenance, and facility outages. The scope of maintenance activities is documented on work control forms and packages. The scope of operational activities is documented in operating procedures. The Daily Schedule in conjunction with the Plan of the Day (POD) Meeting is an effective management tool that has been institutionalized at INTEC.

The ISMS clause has not been passed down to all subcontractors requiring that they manage and perform their work in accordance with a documented ISMS.

MCP-3776 requires that interface agreements be maintained with other organizations as necessary to ensure that the quality of equipment, hardware, software, and documentation meets site facility requirements. Interface problems between construction subcontractors and INTEC operations have been apparent in the recent past. An Interface Agreement (IAG-72) has been approved but is not, as of yet, fully implemented. An interface agreement does not exist between Waste Reduction Operations Complex and INTEC. Additionally, an interface agreement does not exist between Environmental Restoration (ER) and INTEC. The lack of interface agreement between ER and INTEC was previously identified by BBWI and is currently being developed.

Analyze the Hazards

Hazards associated with operations activities are in the process of being analyzed using the requirements of MCP-3562. Hazards associated with research and development are identified and analyzed using MCP-3571, while maintenance and construction hazards are analyzed by the use of STD-101. These processes were found to be adequate to determine the hazards associated with performing work at INTEC. Authorization

Agreements and Authorization Bases have been developed and approved by DOE-ID. Hazard categorizations have been performed for all the INTEC facilities. Worker involvement, including subcontractors, is paramount in every aspect of ISMS implementation, especially in hazard identification and analysis. Involving the worker was determined to be effectively achieved at INTEC.

Waste management hazards and controls are delineated in work control planning through the STD-101 and MCP-3562 Hazard Profile Screening Checklist (HPSC), planning teams, pre-job briefing checklists, and the WGS characterization process. Though waste management hazards and controls are delineated in the work control process, the identification of wastes is not adequately identified in the work packages or procedures. This is discussed further in the Develop and Implement Controls section of this sub-team report. Workers and management are highly aware of the importance of pollution prevention and waste minimization and ensure the work planning process includes these aspects.

Develop and Implement Controls

The review verified implementation of the processes to develop and implement controls.

STD-101 and MCP-3562 both contain requirements for the use of specific processes for ensuring that hazards associated with maintenance and operations are determined, evaluated and mitigated in the documents used to control work. The processes included in the hazard identification and mitigation process include the Hazard Profile Screening Checklist, Facility Hazards Lists, planning walk-downs, workability walk-downs, pre-job briefings and the establishment of an adequate “stop work” process.

The Independent Hazard Review (IHR) process for research activities also provides for the use of tools to ensure that safety requirements are integrated into work performance. These processes, as specified in MCP-3571, include the IHR Checklist and Hazard Mitigation Plan, Hazard Assessment and Mitigation Plan, Hazard Mitigation Checklist, Work Activities Checklist for compliance with NEPA, Exposure Survey and Assessment forms, and a Conduct of Operations Checklist.

Implementation of STD-101, MCP-3562, and MCP-3571 provides an adequate process for integrating safety requirements into work packages and operational procedures, with two exceptions. First, the identification of waste generation in work documents was not sufficient. The mechanisms integrate the appropriate knowledgeable personnel in the review of waste generation activities, however, the work documents did not provide the level of information needed to ensure the proper handling and disposition of waste or allow the worker to understand the waste generation boundaries. Second, for construction activities, the process for developing and approving “subsequent” JSAs is not consistent with the Work Order Change process required by STD-101.

Operational procedures appeared to provide the appropriate steps for implementing the facility Authorization Basis (Safety Limits, Limiting Conditions of Operations).

For non-nuclear areas, the training of the cognizant system engineer (primary system owner) is not formalized for the system(s) for which they are responsible. The frequency, content and participation in the SNF drill program is less than adequate.

Perform Work Within Controls

The review verified implementation of the processes to ensure work was performed within controls.

Facility starts and restarts of INTEC Nuclear facilities are controlled through a well-defined process that includes an Operational Readiness Review and an Operational Readiness Assessment. Authorization Agreements have been signed by the contractor and DOE for all INTEC nuclear facilities and provide the conditions for safe operations.

For maintenance and construction activities, readiness is confirmed via the process defined in STD-101. After a work order has been reviewed and approved by SMEs and the appropriate levels of management, it is then approved by the Site Area Director. The work is then placed on the Plan of the Week, and ultimately on the Plan of the Day. The job supervisor conducts a workability walk-down and a pre-job briefing prior to the performance of the work.

For operational activities, once hazards are identified and controls are implemented in accordance with MCP-3562, the Facility Manager approves work, which is also placed on the Plan of the Week and then ultimately on the Plan of the Day. The job supervisor then conducts a pre-job briefing prior to the performance of the work.

All research work is controlled through the Independent Hazard Review Group (IHRG) process specified in MCP-3571. After completion of this process, authorization is granted by appropriate levels of management and a letter of authorization allows the work to be performed within the established bounds. All personnel involved in the work are required to abide by all conditions and requirements of the IHR documents and approval letter. MCP-3571 contains specific mechanisms that require re-evaluation of the project if the scope of the R&D project needs to be changed such that it is different than that specified in the IHR or should new hazards be introduced.

During all evolutions, the training, knowledge and skill of the observed employees were demonstrated consistently. All were competent commensurate with their responsibilities. Utilization of the qualification card, which each employee carries at all times, assures that each individual is aware of their training status. All individuals interviewed fully understood their “Stop Work” authority and indicated that they would not hesitate to use it. There were two areas where awareness and training could be strengthened (i.e., lack of rigorous implementation of Radiation and Contamination Controls, and a fully qualified employee was not proficient in performing an operational procedure). Although these were isolated instances, they may indicate the potential for complacency in performance.

Provide Feedback and Continuous Improvement

Procedures and mechanisms are in place and utilized by personnel to collect feedback information, including self assessments, facility excellence walkdowns, monitoring of performance measures, occurrence reporting, and investigation of injuries and accidents. INTEC, however, lacks the ability to effectively track PM delinquencies, CM backlogs and other performance measures for critical SSCs that impact INTEC missions and safety.

Self- assessment and management assessment programs have been established and is generally effective.

During previous reviews the processes for identification of environmental hazards were conducted separately due to the development of improved environmental hazard identification processes. Those processes have now been improved and included in the key processes (e.g., STD-101, MCP-3562, and MCP 3571).

The various modules of the ICARE process provide formal mechanisms for managers to consider and resolve recommendations for improvement.

Post-job reviews are conducted at the completion of maintenance activities to provide feedback for continuous improvement of the maintenance process.

Issues

IHAZ1-1 The Project Manager for the CPP-606 Boiler Project did not demonstrate a level of environmental knowledge and awareness commensurate with his responsibilities.

IHAZ1-2 Waste generation is not sufficiently identified in work documents.

IHAZ1-6 Through continuous improvement of work control documents such as MCP-3562 and STD-101, terms, titles, processes and delegations need to be clarified to more closely represent actual procedural implementation. In addition, SNF TPRs need to be evaluated against the criteria in STD 9, section 8.6.3 to ensure that clear work step roles and responsibilities are defined.

IHAZ1-7 Attention to detail for Radiation and Contamination Controls at INTEC needs to be strengthened. Several instances indicate the potential for complacency.

IMG1-1 The team found during the review that the INTEC Configuration Management (CM) program has a sufficient project plan but the resources to successfully work the design recovery element of the CM plan has not been identified to ensure success of the plan execution.

IMG2-1 For non-nuclear areas, the training of the cognizant system engineer (primary system owner) should be strengthened to formally train and qualify the engineer to the system(s) for which they are responsible.

IMG2-2 Improvements in the nuclear drill program for SNF operations are necessary. The complexity of the drills should be enhanced. Several operators have not received casualty drill training in the last two years.

IOP1-1 SNF at INTEC lack the ability to effectively track PM delinquencies, CM backlogs, and other performance measures for critical SSCs that impact INTEC missions and safety. Critical safety systems, as used here, includes non-safety class and non-safety significant SSCs, such as sprinkler systems.

IOP1-3 Interface Agreement IAG-72 titled "Interface Agreement Between INTEC Site Area Director and Project/Construction Management" is not implemented.

IOP1-4 The procurement process for ensuring inclusion of the ISMS clause in vendor subcontracts was not adequate to prevent failure of the process.

IOP1-5 There was one noted instance in which information was entered into a mandatory sequencing work control document in an out-of-sequence order.

IOP1-6 The numbering system in Post-Job Review forms used to provide feedback to Primary Owners and Planners is not useful in improving the work control process. This issue was previously self-identified by the Contractor.

IOP1-7 A Primary Authorized Employee performed a walkdown of the lockout/tagout isolation boundary to provide final approval of the isolation boundary in lieu of the use of an available as-built drawing.

IOP1-9 A disparity exists between the approval process for subsequent JSAs and the approval process of the WOC identified by STD-101. The approval process for subsequent JSAs identified in MCP-3450 and MCP-2863 is less stringent than those required by the hazard identification and mitigation approval process of STD-101.

IOP1-10 There was one noted instance where the USQ screening box on the Document Action Request (DAR) form for a technical procedure, TPR-WROC-3.1.11(Waste Handling at WROC RCRA Storage Units) was not completed.

IOP1-11 An interface agreement does not exist between Waste Reduction Operations Complex and INTEC for the management of INTEC-1617 & 1619.

IOP1-12 An interface agreement does not exist between Environmental Restoration (ER) and INTEC. The lack of interface agreement between ER and INTEC has been identified by BBWI and is currently being developed.

IOP1-13 One instance was noted in which a newly qualified operator (qualification date 3/31/00) did not demonstrate his proficiency in operating the distributed control system and utilizing the Inoperable Valve Limit Switch Log without assistance from the Control Room Operator.

IOP-1-14 There was one noted instance where lessons learned were applied to all facilities within INTEC except INTEC-1617 and 1619.

Strengths

IHAZ1-3 Utility Operators demonstrated exceptional environmental knowledge and awareness.

IHAZ1-4 Analytical Laboratories has implemented additional mechanisms to address hazard identification and mitigation to clearly address laboratory operations.

IHAZ1-5 Worker involvement in the hazard identification and mitigation processes at INTEC.

IHAZ1-8 An abbreviated training record of the more important applicable training for an employee was physically carried by same employee. This is not a requirement. These abbreviated forms are updated monthly. In addition, all craftsmen are trained in waste minimization and pollution prevention techniques.

IHAZ1-9 The subcontractor for the INTEC-651 chevron door/excavation activity holds pre-job meetings EVERY day, even though at times they are not required.

IHAZ1-10 Management at INTEC has made great strides at accomplishing a culture change and continuous positive attitude of workers and management regarding ISMS. All workers (operational, maintenance, construction, SMEs etc) were knowledgeable and skilled commensurate with their responsibilities. Worker involvement, including subcontractors, is paramount to every aspect of the ISMS implementation, and is effectively achieved at INTEC.

IMG1-2 The Analytical Lab Department has embraced ISMS and utilizes an integrated process to identify and prioritize specific mission discreet tasks, mission process operations, modifications and work items.

IMG2-3 The utilization of the qualification card which each employee carries at all assures that each individual is aware of their training status all times.

IMG2-4 Having the responsible supervisor personally review the training package to verify worker qualification is a noteworthy practice.

IOP1-2 The understanding between management and the workers that safety comes first in work planning, readiness checks, and work performance, including stop work, is not just a empty slogan but appears to be part of the culture at SNF.

IOP1-8 Without exception, workers demonstrated an enthusiastic attitude toward their participation in the work control process.

IOP1-15 The worker and management knowledge of ISMS core functions, guiding principles and implementing procedures, MCP-3562 and STD-101, is exemplary.

IOP1-16 Electrical crafts personnel demonstrated keen awareness for pollution prevention and waste minimization opportunities in their work activities.

IOP1-17 The MCP-3562 team has demonstrated complete accountability for implementing the 3562 process at INTEC by September 30, 2000.

IOP1-18 The INTEC MCP-3562 Team has developed a tool to consistently implement controls for hazards into procedures, titled "INTEC Mitigation Guidelines for TPRs."

IOP1-19 Worker involvement in the work planning and feedback process is exemplary.

IOP1-20 INTEC worker involvement in the VPP Employee Safety Team Accident Review Teams has proven to mitigate substantial hazards.

IOP1-21 HLW has generated an operationally oriented post job review form to document post job reviews versus utilizing the maintenance oriented form referred to in MCP-3003.

TEST REACTOR AREA (TRA) and TEST AREA NORTH (TAN)

The ISMS Verification Sub-Team noted that ISMS, as described in PDD-1004, INEEL INTEGRATED SAFETY MANAGEMENT SYSTEM, has been effectively and fully implemented at both TRA and TAN. Although there were issues noted, the challenge facing BBWI is to assure that the ISM systems that are in place now continue to be used and enhanced through continuous process improvement.

In order to accomplish the Core Functions of ISMS addressed below, clearly defined roles and responsibilities are embedded in the company-wide and facility specific

documentation implemented under PDD-1004. These documents emphasize line management responsibility for safety. At both TRA and TAN, facility directives have been implemented that summarize for facility positions the roles and responsibilities from both company and facility documents. These facility directives extend down to the worker level. A review of these directives shows that they are specific and comprehensive.

Define the Scope of Work

The review of documentation, combined with interviews and observations, demonstrates that both TRA and TAN have a satisfactory process for identifying and prioritizing mission-related tasks, modifications and work in accordance with the mechanisms of the INEEL ISMS. Management attention and involvement in work identification, planning and prioritizing is evident at both facilities. The Plan of the Day meetings at TRA and TAN are thorough, well organized and systematic. There is good flow of work scope definition from the Work Control Form through the Work Order closure process.

Analyze the Hazards

The hazards analysis process at the TRA and TAN facilities adequately analyzes hazards to workers, the environment and the public. The process conforms to the Authorization basis standards and DOE expectations through a systematic flowdown of requirements into implementing processes and procedures. Hazard identification is normally performed under one of three processes: STD-101 for maintenance and construction; MCP-3571 for R&D activities and MCP-3562 for operations-related activities. Craftsmen, operators, line management, and ESH&QA professionals actively participate in hazards identification and mitigation through the use of the Work Control Form, the Hazards Identification and Mitigation Process, the Hazards Profile Screening Checklist, the Hazard Evaluation Group (HEG), pre-job briefings, and post-job reviews. Multiple checks and balances are incorporated into the overall hazard identification process. When a radiological hazard is identified in the screening process, the ALARA program is implemented through the Radiological Work Permit. The HEGs at both facilities are rigorous in their reviews. Waste Generator Services are also integrated into the work planning. TAN has implemented a Hazard Mapping System. This system is a computer based, interactive, pictorial database that takes the Facility Hazards List and provides not only what hazards are in the building, but also shows where the hazards are. The system is interactive which allows for worker input in real time.

Develop and Implement Hazard Controls

The review of documentation, coupled with interviews and observations, indicates that there is adequate implementation and integration of hazard controls in work control processes at TRA and TAN. Work planners are qualified and have developed effective tools to ensure consistency in specifying mitigation controls for identified hazards. Job Safety Analysis (JSA) requirements are adequately incorporated into detailed work packages. JSAs developed for operational activities are incorporated into detailed

operating procedures. Work planning meetings incorporate the necessary disciplines to ensure that effective controls are developed for identified hazards. Workers and crafts indicated during interviews that their participation during the job planning process, walkdowns of worksites, and pre-job briefings is strengthening work control. However, at TRA, there is a varying degree of understanding of how ISMS, VPP, ALARA, WASP and other ESH&QA programs interrelate. At both areas, it was noted that the Passport Software that is utilized to produce the work order packages is not as efficient as it should be.

The implementation of hazard controls for facility modification and construction is through the configuration management program. All facility changes are governed by the configuration management and control procedures.

WRRTF uses an innovative approach to hazard control through use of the WRRTF Recovery Plan. This facility is in a seriously degraded condition, but still is used to support R&D activities. The Recovery Plan defines what kinds of work can be performed where and then describes the controls on modifications that might be contemplated during the course of the activity. The facility is visibly placarded to reinforce the Recovery Plan requirements.

Perform Work Within Controls

At all levels at TRA and TAN, the workforce expressed a strong commitment to perform work safely. A well defined program to train supervisors and workers to perform their assigned tasks safely within established controls is in place at both facilities. The training program described in PDD-1004 has flowed down to the facility level. An effective Individual Training Plan and training status tracking system is in place and in use at TRA and TAN. Worker training requirements are factored into work planning and work accomplishment in a systematic and documented manner.

Workers are actively involved in ensuring safety. Stop work policy is in place and well understood at TRA and TAN. The staffs indicate a clear willingness to use it, and several recent instances of use were provided. Detailed pre-job briefings are performed using a comprehensive checklist. Workers are clearly involved in the pre-job briefs.

Special management attention is required to ensure that crafts support will continue to be available at the necessary levels to support both reactor operations and landlord functions at TRA.

Provide Feedback and Continuous Improvement

Feedback and improvement processes are very much part of ISMS implementation at both TRA and TAN. Feedback and improvement are adequately integrated and formalized through: self-assessments (required and targeted), facility walkdowns, occurrence reporting, use of Lessons Learned, use of Issue Communication and Resolution Environment (ICARE) Reports, Work Control Forms, various management

review boards, and post-job reviews. Post-job reviews are prepared using a formal checklist, and issues are documented and tracked to closure. There is systematic follow-up on issues from post-job reviews by craft foremen, work planners, and safety systems and components engineers. Training on use of these systems is adequate. Additionally, records management is committed to maintaining document control, while addressing changes in a timely manner.

An area of improvement from a site-wide perspective deals with electronic access requirements into various databases. Subcontractors may not have electronic access to the various systems such as Lessons Learned. A process does not appear to exist that both identifies which subcontractor needs what information and then assures that the appropriate access is granted for the work scope that they were hired to perform.

Issues

TMG1-1 Maintaining an appropriate level of fully qualified crafts people to support TRA operations.

TMG1-2 Maintaining a robust ISM implementation at TAN as the budget decreases.

TMG1-3 Lack of a corporate policy to identify which subcontracted personnel should have access to company electronic systems (e.g. Lotus Notes) and then getting this access in a timely manner.

THAZ1-1 The Passport software that is utilized to produce the work order packages is not as efficient as it needs to be, especially in order to support priority one activities. This item has been identified by multiple people in multiple areas including TAN Management and is being worked.

TOP1-1 At TRA, there is a varying degree of understanding of how ISMS, VPP, ALARA, WASP and other ESH&QA programs interrelate.

TOP1-2 TAN POD OOS list is not current and equipment status is not discussed at the TAN POD.

Strengths

TMG1-4 Use of the ABIR system to define and track both safety and environmental compliance requirements at TAN. It is noteworthy that this approach was first exported to TAN from INTEC, and then expanded at TAN to include environmental requirements.

TMG1-5 Use of the “Procedure Review Requirements” process at TRA to ensure that appropriate document reviews are achieved in an expeditious manner.

TMG1-6 Use of the Monitor Watch Program at TRA which facilitates continuous improvement and feedback through a streamlined assessment process.

TMG1-7 A risk-based approach for building access and work control in old and degraded structures.

TMG2-1 The senior managers at TRA and TAN are committed to all aspects of the safety management program. They demonstrated an aggressive, positive attitude towards implementing the Core Functions and Guiding Principles of the ISMS.

TMG2-2 The Site Operations Training Manager and his staff are proactively involved with monitoring and assisting the TRA and TAN training organizations to fully meet the goals and objectives established in PDD-1004 and supporting documents. A network of company-wide and facility specific boards as described in PDD-1004 is in place and functioning to ensure that emerging training requirements are identified and flow down to the ITPs.

TMG2-3 At TRA and TAN, the procedures and mechanisms described in PDD-1004 and supporting documents are in place and are being utilized effectively to ensure that personnel who supervise work have competence commensurate with their responsibilities and that personnel performing work are competent to safely perform their work assignments. Positive comments from workers about the training programs at TRA and TAN were noted.

THAZ1-2 At TAN, the Hazards Mapping Process allows for real-time worker input.

THAZ1-3 The risk-based, graded approach used for the WRRTF facility, as described in the WRRTF Recovery Plan, is an efficient and excellent way to implement ISMS into the activities being performed at the facility until a final decision can be made on the final disposition of the facility. The benefit/cost ratio for that effort is extremely high.

THAZ1-4 The Hazards Materials Management Procedure, SMC-MCP-1.7704, specifically incorporates Pollution Prevention (PP) requirements into the TAN facility for chemical and hazardous materials procurement.

THAZ1-5 Employee morale and worker involvement at TAN is extremely high.

THAZ1-6 At TRA, a suggestion from an Equipment Operator resulted in a modification to the TRA Hot Cells cask alignment installation which resulted in allowing lower ALARA goals for cask loading/unloading operations.

THAZ1-7 The TRA Hazard Evaluation Group's review and upgrading of over 800 procedures to institute ISM requirements into the existing procedures in a short period of time is extremely impressive.

TOP1-3 The TRA Monitor Watch Program is effective in making note of operational excellence and quickly addressing performance issues.

TOP1-4 The TAN Hazard Mapping System is an excellent extension of the FHLs.

Central Facility Area (CFA), Power Burst Facility (PBF), and Waste Reduction Operations Complex (WROC)

The CFA, PBF and WROC facilities have made notable progress in implementing the approved ISMS. The CFA, PBF and WROC facilities have defined clear roles and responsibilities. Managers demonstrate a commitment to ISMS and are responsible and accountable for safety. Facility personnel demonstrate competence commensurate with responsibility and are fully engaged in the ISMS process by actively participating at all levels. Procedures and mechanisms are in place to ensure that hazards are analyzed; controls are developed; work is formally and appropriately authorized and safely performed; and feedback and improvement programs are in place and effective. The ISMS at CFA, PBF and WROC was determined to be implemented, and areas for improvement have been identified during this review which will lead to an even more robust ISMS. The CFA, PBF and WROC implementation of the ISMS has facilitated worker involvement in work planning and hazard identification and mitigation. The employees demonstrated a high degree of enthusiasm and ownership for their role in the ISMS process.

Define Scope of Work

The INEEL Institutional Plan establishes the strategic thrusts and vision for the programmatic activities performed at the INEEL. The CFA Integrated Plan translates this vision into local planning. DOE provides programmatic guidance in the form of Program Execution Guidance (PEG), Performance Evaluation and Monitoring Plan (PEMP) criteria, and budgetary work packages. BBWI management uses procedural mechanisms to identify and prioritize work items in accordance with the guidance provided in Company Manual 5, Project Cost and Schedule Controls.

Day to day work tasks at CFA and WROC/PBF are identified, prioritized, planned, scheduled, and performed as specified in company-wide and local procedures. Planned work is submitted for prioritization and scheduling on the Plan of the Day (POD). Long range schedules are used to support this process. Procedures and mechanisms are in place and utilized to confirm that the facility and the workforce are in an adequate state of readiness prior to authorizing performance of the work.

Analyze the Hazards

The hazard analysis process at the CFA, PBF, and WROC facilities adequately controls the hazards to workers, the environment, and the public. This includes nuclear, industrial, occupational safety, and environmental hazards. This process conforms to DOE requirements and standards through a systematic flowdown of requirements into facility implementing procedures. This has been accomplished through the implementation of processes described in key documents including PDD-1004, PDD-1005 and PDD-1012. PRD-25, "Activity Level Hazard Identification, Analysis and Control" and its implementing procedures encompass the various work processes mandating a defense-in-depth methodology for the identification of hazards. Procedures and mechanisms are in place that define clear roles and responsibilities for activities conducted at CFA and WROC in order to ensure that safety is maintained. Maintenance activities are conducted in accordance with STD-101, Integrated Work Control Process, and operational activities are conducted in accordance with MCP-3562, Hazard Identification, Analysis and Control of Operational Activities. Interviews and observations indicate that these procedures and mechanisms are understood and routinely used to control work. The extent of worker involvement in these processes is notable.

There were two observed weakness identified in BBWI's hazard analysis efforts. First, the CFA Sewer Lagoon Pivot Wheel was not subjected to the MCP-3562 review process. The ability to remotely start-up the equipment without validation that "area of operation" was clear of personnel/equipment was not identified as a potential hazard. Second, the INEEL Facility Hazards List, controlled by MCP-3591, "Maintenance and Use of Facility Hazards Lists" is not being updated in a timely manner. The review also found that BBWI has not established a system to "control/flag" identified hazards between identification and entry into the FHL to ensure that work control documents address the newly identified hazards.

Develop and Implement Hazard Controls

Procedures and mechanisms are in place and utilized to ensure work planning is integrated at the individual maintenance or activity level, work planning fully analyzes hazards, and develops appropriate controls. Work at CFA, PBF, and WROC is performed using maintenance work packages and operational procedures that conformed to STD-101 or MCP-3562, as applicable. Maintenance and operational work performed are developed, reviewed, approved and executed using processes that include pre-and post- job briefs and walkdowns by the planners who developed the work packages. Work activities are authorized in a Plan of the Day that is approved by the Site Area Directors. Individuals interviewed were fully aware of their authority to stop work if they believe it cannot be accomplished safely.

Perform Work Within Controls

CFA, PBF and WROC have procedures in place that are utilized to ensure that all work is performed in accordance with written requirements. Foremen and supervisors are responsible to ensure that work is performed in this manner. The senior supervisory watch provides a final review and monitors activities based on the nature of the work, performing an important management oversight role to ensure work is performed within controls. Information obtained during interviews, record reviews and observations indicated that line managers and supervisors had appropriate training, qualifications, and experience and were competent commensurate with their responsibilities.

WROC/PBF has developed an Administrative Preventive Maintenance (APM) system for management and scheduling of all administrative actions related to the completion of the facilities mission. It includes programmatic actions such as management assessments, required inspections, reviews, and permit-required actions. Required administrative actions are listed in the APM database with a unique number, periodicity, scheduled date, description, facility and responsible individual.

The CFA and WROC/PBF area Employee Safety Teams (EST) are recognized as a significant strength. The EST develop directorate-wide safety goals, track and trend performance indicators, and coordinate safety walkdowns, inspections and observations of work areas. This activity greatly expanded the individual employee's involvement in safety and have significantly contributed to an enhanced "safety culture".

Worker involvement at all levels is a notable strength throughout the company. Employees have a strong sense of ownership for workplace safety and actively participate in a wide variety of safety programs. In addition to the Employee Safety Teams and Worker Applied Safety Program, worker driven initiatives, such as the development of a practical, hands-on training course for scaffold builders, provide additional evidence of worker involvement and ownership of work practices and outcomes. Another example of this increased employee involvement is the effort under taken by the CFA custodial staff to reduce SARA/EPCRA 313 products by 57% since January 2000. These initiatives provide dividends in the form of increased efficiency, waste minimization, and enhanced worker safety.

Several program weaknesses were identified. Observation of the CFA weekly fire pump operational test found that an operator and supervisor demonstrated a willingness to bypass a "Prerequisite, Operating Requirement," of technical procedure TPR-5979, "CFA-1603 Firewater Pump Operation and Weekly Checks" in order to perform the required task.

Provide Feedback and Continuous Improvement

The independent oversight organization has recently experienced considerable change. During the last year, the manager has changed twice, and the position is presently vacant. Leadership for the Quality Assurance and Conduct of Operations and ES&H groups has

also changed, and are presently filled by Technical Leads. Staffing of the organization has diminished by about 50%, without a commensurate change in the assessment schedule. In addition, current assessments are being performed using indirect funding sources. The maintenance of a regulatory, risk, and performance-based approach to independent oversight may be questionable when the assessing organization must depend upon the assessed organizations for funding.

Procedures and mechanisms are in place and utilized by personnel to identify feedback opportunities. These processes are well accepted and serve to provide a source of feedback information, which is evaluated for potential process improvements and applied to processes to improve performance. Lessons learned information is shared and communicated between organizations in an effort to avoid similar problems. A corrective action system is in place and functioning to enable process improvement through a formal, systematic process.

A number of processes are used to establish, document, and implement safety performance objectives and measures. At a corporate level, the Performance Evaluation Measurement Plan (PEMP) addresses administration of award fee provisions of the contract between DOE and BBWI, and uses a balanced scorecard approach to establish safety and operational performance measures and goals. Performance Execution Guidance is another mechanism used to establish performance expectations, performance measures, and milestones. The ESH&QA Performance Measurement & Trending Report provides performance metrics and analysis on a periodic basis for individual facilities and the overall company. A number of periodic assessment and trending reports are routinely prepared to provide important feedback and continuous improvement information to management.

Processes for identifying and sharing lessons learned information and for translating the information into actions to improve processes are contained in MCP-192, Lessons Learned Program. During interviews with personnel, it was evident that lessons learned information is received and is being shared within the CFA and WROC/PBF organizations, generally on a “For Your Information” basis. It was noted that copies of DOE-ID Factsheets are distributed to employees as part of communicating lessons learned. Care should be taken with this and other sources of information, to ensure that the information is accurate. Most members of management had a reasonable level of familiarity/ understanding of root and direct causes and causal factors for recent accidents within the DOE complex, but this was not true of employees at lower levels in the organization. This issue had been self-identified.

Only one noteworthy practice report formally identified and submitted to the DOE-wide lessons learned system database in recent months. While successes are frequently identified and shared within CFA and WROC/PBF directorates in an informal fashion, there is little management attention directed to soliciting and sharing this information with higher levels in the organization and submitting to the DOE lessons learned system.

The Site Operations Directorate developed the FLASH message to assist in providing timely notifications to Senior management and the SADs of events or situations in order to allow management to take appropriate actions. Management should ensure that all members of management are aware of this communication tool, in order to ensure that appropriate information is elevated to the SAD for communication when warranted.

Post-job reviews required by MCP-3003 at the conclusion of work are used to provide feedback and process improvement information. During the review, it became evident that this process was not as effective as it could be because little or no detailed information was being provided on the completed post-job review forms. This deficiency had been self-identified.

Issues

CHAZ1-1 Operation of the CFA sewer lagoon pivot wheel was not subjected to a MCP-3562 review.

CHAZ1-2 Timely update to the BBWI Facility Hazard List is not being performed.

CHAZ1-3 A CFA utilities operator and supervisor demonstrated a willingness to bypass a proceduralized "Prerequisite, Operating Requirement" in order to perform work.

CMG1-1 Many managers are not aware of the existence of the FLASH message process. Management should ensure that all members of management are aware of this communication tool, in order to assure that appropriate information is elevated to the SAD for communication in a FLASH message.

CMG1-2 The MCP-3003 post-job review process was not as effective as it could be because little or no detailed information is typically being provided on the completed post-job review forms.

CMG1-3 Employees at lower levels in the organization did not demonstrate a reasonable level of familiarity/ understanding of root and direct causes and causal factors for recent accidents within the DOE complex. There is a need for a better process to disseminate and institutionalize lessons learned.

CMG1-4 Insufficient emphasis is placed on identification of noteworthy practices to share within INEEL or with other portions of the DOE system using the DOE-wide lessons learned system database.

CMG1-5 BBWI management needs to re-evaluate the scope of work and funding mechanism for the Independent Oversight organization from the perspective of balanced priorities, competence commensurate with responsibility and the desire to maintain an independent regulatory, risk and performance-based assessment schedule.

Strengths

CHAZ1-4 CFA custodial staff has reduced SARA 313 listed chemicals from twenty-one at the end of 1999 down to a current use of twelve. This resulted in a 57% reduction.

COP1-1 Worker involvement in the planning processes has not only been achieved but is proving to have a positive effective on the INEEL worker ES&H awareness and contribution to continued improvement in this area.

CMG1-6 The Administrative Preventive Maintenance (APM) system developed for management and scheduling of all administrative actions related to the completion of the WROC/PBF mission has resulted in an extremely high completion rate for administrative actions for the WROC/PBF directorate.

CMG1-7 The CFA and WROC/PBF Employee Safety Teams are recognized as a significant strength for the many important safety-related functions performed.

CMG1-8 Worker involvement at all levels within BBWI and management's support of this involvement is a notable strength.

CMG1-9 The WROC/PBF Directorate-wide employee stretching program allows each employee to participate in a stretching program. Designated work tasks that involve a high percentage of lifting, loading or carrying are required to include worker stretching as a part of the pre-job brief.

CMG1-10 An Employee Action Plan, consisting of seven measures defining minimum expected levels of employee safety performance are printed on a small card along with Unit safety goals, and a copy provided to each employee for reference. The Employee Action Plan is a part of each WROC/PBF employee's Performance Agreement.

DOE-ID INTEC and Subject Matter Expert (SME)

This ISMSV-II Part III specifically continued the review of the DOE-ID for INTEC. Additionally, the Radiological Controls Subject Matter Expert (SME-1) CRAD focused on the Radiological Controls at TRA and TAN, and the Issues Management Subject Matter Expert (SME-2) CRAD focused on the Issues Management System at INTEC. These were conducted at the direction of DOE-ID to provide a consistent approach to assess the degree of overall INEEL ISMS implementation, continuity and improvement during the past year.

The DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities and provide oversight for the contractors' ISMS at INTEC. The

DOE-ID organization provides adequate oversight at INTEC for the five ISMS Core Functions: (1) Define Scope; (2) Analyze the Hazards; (3) Develop and Implement Controls; (4) Perform Work within Controls; and (5) Provide Feedback and Continuous Improvement.

The INEEL Radiological Control Organization has appropriately implemented the five core functions of ISMS into the INEEL radiological control program.

Define Scope of Work

The DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities and provide oversight for the contractors' processes to "Define the Scope of Work" at INTEC. Overall, based on the observations from this ISMSV-II for INTEC and the previous ISMSV-II results, the DOE-ID INTEC management continue to use their processes satisfactorily, consistent with their requirements in this area. The DOE-ID INTEC organization demonstrated that it is adequately involved in developing the work scope by reviewing safety issues and concerns, and they have a sufficiently active role in authorizing and approving work and operations at INTEC. The DOE-ID INTEC personnel also adequately execute their responsibilities in this area to follow through to the subsequent ISMS core functions. The positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with contractor personnel, and their strong sense of line management responsibility for safety for INTEC are substantial strengths. These strengths were also previously noted by both of the ISMSV-IIs in September 1999 and March 2000.

The scope of work within the radiological controls program is well defined and understood by radiological control staff and facility line management. The radiological control program is separated into two primary functions; Radiological Management and Engineering and Radiological Operations. Radiological Management and Engineering is responsible for program management, personnel management, procedural development, internal oversight, and radiological engineering support. Radiological Operations is responsible to support INEEL Line Management, by providing trained and qualified Health Physics personnel, in the daily operation of INEEL facilities. Document reviews, personnel interviews, and observations indicate there is adequate management direction and worker involvement to conclude the INEEL Radiological Control organization has adequately implemented ISMS into the INEEL radiological Control Program.

The review of the Issues Management System is summarized and discussed below within the "Provide Feedback and Continuous Improvement" section of this summary.

Analyze the Hazards

Documentation outlining the DOE-ID processes for oversight of the INTEC facility safety basis and analyzing the hazards was reviewed. The results of the record review indicated that these DOE-ID processes have been adequately implemented. A review of a sample of documentation, combined with the personnel interviews, concerning the maintenance of the safety basis for INTEC indicated the active involvement of DOE-ID personnel in this area supported this conclusion. This DOE-ID INTEC involvement adequately flowed into the next ISMS Core Function for their involvement in the "Development and Implementation of the Hazard Controls."

Radiological Control procedures are in place and in use by radcon and line management to ensure radiological hazards are identified and analyzed to ensure proper controls are implemented to perform radiological work safely. STD-101 process integrates the requirements of the radiological program with the other safety programs. Personnel interviews, document reviews, and observations indicate the radiological control program is integrated into the ISMS process and that the INEEL Radiological Control organization has adequately implemented the ISM core function "Analyze the Hazards" into the radiological control program.

Develop and Implement Hazard Controls

The review of a sample of the DOE-ID INTEC documentation concerning the maintenance of the safety basis, and the development and implementation of Hazard Controls for INTEC indicated the active involvement of DOE-ID INTEC personnel in this area. The review of records, combined with the personnel interviews, indicated that the DOE-ID INTEC Program and Facility Management, Facility Representatives (FRs) and Facility Engineers (FEs) are adequately involved in their ISMS processes for the Development and Implementation of Hazard Controls. These DOE-ID INTEC responsibilities also flowed into their responsibilities for Oversight during the subsequent ISMS Core Functions of "Performing Work within Controls," and "Providing Feedback and Continuous Improvement."

Radiological hazard analysis and controls are initiated through the processes identified in STD-101 and MCP-3562. The INEEL RadCon program develops and implements hazard controls through the implementation of the ALARA program and by use of the Radiological Work permit. Observations, document reviews, and personnel interviews confirm this process is in place and functioning as intended.

The use of the RCIM system is an effective tool to control access to radiological areas. The RCIMS system requires the employee to read and then acknowledge they understand and will comply with the RWP requirements. During the RWP login process the employee's ALARA goal and year to date exposure is displayed on the computer screen. Additionally, during the login process the RCIMS system checks employee training history, checks for administrative holds, and verifies the employee had attended the pre-job brief, before authorizing the employee access to the job-site. Interviews

indicate INEEL employees consider the RCIMS system a valuable tool for implementing the ISMS process.

The INEEL Radiological Control organization has adequately implemented ISMS into the INEEL radiological Control Program to implement and self-assess the ISM Core Function "Develop and Implement Hazard Controls."

Perform Work within Controls

The review of DOE-ID INTEC documentation, combined with the results of the subsequent personnel interviews indicated that DOE-ID has sufficient processes in place to confirm readiness prior to authorizing operations for INTEC. From the personnel interviews and related observations it was apparent that the DOE-ID INTEC Facility Representatives (FRs), Facility Engineers (FEs), and Facility Staff and Management are sufficiently knowledgeable, engaged in INTEC operations, and have established a good rapport with their INTEC facilities and the DOE-ID support personnel. The review of DOE-ID INTEC records and supporting documentation, and INTEC project and program documentation supported this conclusion. Overall this documentation provides adequate and consistent guidance delineating the DOE-ID organization's roles and responsibilities for oversight of work at INTEC.

The radiological control organization is tasked with supporting line management's implementation of the radiological control program. In particular, INEEL radcon management recently redefined the roles and responsibilities for INEEL Radiological Control Technicians. RCT's are specifically tasked with oversight of radiological work practices and implementation. Interviews with RadCon and INEEL workers identify this work scope to be beneficial and important to ensuring radiological work is performed safely and within specified controls.

The INEEL Radiological Control organization has adequately implemented ISMS into the INEEL radiological Control Program to implement and self-assess the ISM Core Function "Perform Work within Controls."

Provide Feedback and Continuous Improvement

Samples of DOE-ID INTEC Oversight Activities Reports, other Self-Assessment Reports for the same period, and Planned Oversight Activities Schedules were reviewed. The results of these reviews indicated that the DOE-ID at INTEC is providing adequate oversight in the execution of their responsibilities for these areas. The DOE-ID INTEC documentation provides adequate and consistent feedback of their oversight activities at INTEC to the M&O Contractor. Their feedback is a key element not only to the performance of work, but is also important in providing sufficient input for the Contractor's Continuous Improvement. This is also consistent with the DOE-ID organizations assessed in the earlier ISMSV-IIs. Overall, the DOE-ID INTEC organization's Issues Management is adequately implemented to execute their responsibilities and provide oversight for the contractors' ISMS at INTEC for the ISMS

Core Function of "Provide Feedback and Continuous Improvement." As discussed below and elsewhere within this report, the M&O Contractor's Issues Management is in a state of flux.

Overall, from this ISMSV-II review, it appears that the M&O Contractor's Assessment of the Issues Management system correctly identified a set of problems and causal factors to address. It is time for the DOE-ID and M&O Contractor teamwork to develop, refine, and implement a sound Issues Management system that works for the INEEL (site-wide) and fully supports INEEL operations and continuous improvement for the DOE –ID and the M&O Contractor. This was identified as an issue (SME 2-1)

The INEEL Radiological Controls organization has adequately implemented their responsibility to conduct oversight of line management and perform self-assessments. Post-job reviews provide an excellent feedback opportunity for workers to provide feedback to the radiological control organization on the conduct of radiological work. An area of improvement was identified in the communication of ALARA goals and is discussed in the issues below.

Personnel interviews, document reviews, and observations indicate the INEEL is actively seeking improvement and feedback and has implemented this ISMS core function.

Issue(s):

SME2-1 Overall, from this ISMSV-II review, it appears that the M&O Contractor's Assessment of the Issues Management system correctly identified a set of problems and causal factors to address. It is time for the DOE-ID and M&O Contractor teamwork to develop, refine, and implement a sound Issues Management system that works for the INEEL (site-wide) and fully supports INEEL operations and continuous improvement for the DOE –ID and the M&O Contractor.

SME1-1 Overall from this ISMS-II review, it appears the INEEL contractor has successfully integrated ISMS into the Radiological Control Program. The INEEL should focus attention on the program for identifying personal ALARA goals. Knowledge of personal radiation exposure and individual ALARA goals is vital to mitigating radiological hazards. The INEEL contractor should improve the program for setting, reporting, and revising personnel ALARA goals. Particular attention should be focused on communicating ALARA goals and any changes to all INEEL employees.

SME1-2 Workers at one TRA job site did not stop the job when conflicting radiological exit requirements were identified.

SME1-2 At TAN a GERT trained employee was assigned to perform job planning walk downs of radiological areas and assigned job tasks to Rad Worker I and II trained employee.

Strength(s):

DOE1-1 The continuing positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with contractor personnel, and their strong sense of line management responsibility for safety at INEEL continue to be substantial strengths.

DOE1-2 The DOE-ID ISMS Project Manager has done an excellent job in coordinating the implementation of ISMS for DOE-ID at INEEL, using a project management approach.

SME1-4 The RCIMS Access control system is a valuable tool for controlling access to radiological areas.